217/782-2113

CONSTRUCTION PERMIT - REVISED
NSPS SOURCE
NESHAP SOURCE

PERMITTEE

Kinder Morgan Liquids Terminals, LLC – Argo Terminal
Attn: Dennis Majerczak
8500 West 68th Street
Argo, Illinois 60501

Application No.: 01030082 I.D. No.: 031012AEA
Applicant's Designation: Date Received: December 4, 2002
Subject: Fuel Distribution Project
Date Issued: February 18, 2003
Location: 8500 West 68th Street, Argo

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of a modification to the fuel distribution project which includes a new enclosed flare (VCU-3) which will replace two vapor scrubbers (Scrubber No. 1 and No. 2) controlling various existing tanks and racks, new amine scrubber unit (Scrubber No. 3) to control existing tank W-1, new internal floating roofs for three existing tanks (Nos. 20-1, 25-21 and 25-8), two new large storage tanks (fixed roof 55-11 and IFR equipped 55-12), two new small fixed roof tanks (ADD-2 and ADD-4), a portable vapor combustion unit, increased throughput for tank C-10, installation of transmix loading station, storage and loading of aviation gasoline, vapor balance control system for working losses associated with tank 5-12, vapor phase absorption filter for standing losses associated with tank 5-12, and ancillary equipment (piping, pumps, etc.) as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1a. i. The two new large storage tanks Nos. 55-11 and 55-12 are subject to a New Source Performance Standard (NSPS) for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60, Subparts A and Kb. The Illinois EPA is administering NSPS in Illinois on behalf of the United States EPA under a delegation agreement.

ii. At all times, the Permittee shall also, to the extent practicable, maintain and operate the two storage tanks Nos. 63-1 and 55-12, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions.

iii. For the two storage tanks Nos. 55-11 and 55-12, the Permittee shall comply with the applicable Standard for volatile organic compounds (VOC) identified in 40 CFR 60.112b.

iv. For the two storage tanks Nos. 55-11 and 55-12, the Permittee shall comply with the applicable Testing and procedures identified in 40 CFR 60.113b.

v. For the two storage tanks Nos. 55-11 and 55-12, the Permittee shall comply with the applicable Reporting and recordkeeping requirements identified in 40 CFR 60.115b.

vi. For the two storage tanks Nos. 55-11 and 55-12, the Permittee shall comply with the applicable Monitoring of operations identified in 40 CFR 60.116b.

b. For the three storage tanks Nos. 20-1, 55-11 and 55-12, the Permittee shall comply with the applicable Control Requirements for Storage Containers of volatile organic liquids identified in 35 IAC 218.120.

c. i. This permit is issued based on the two new smaller fixed roof storage tanks (ADD-2 and ADD-4) not being subject to 40 CFR 60, Subpart Kb, because each tank has a capacity less than 40 cubic meters, pursuant to 40 CFR 60.110b(a).

ii. This permit is issued based on the two new smaller fixed roof storage tanks (ADD-2 and ADD-4) not being subject to 35 IAC Part 218.120, because each tank has a capacity less than 40,000 gallons, pursuant to 35 IAC 218.119.

iii. This permit is issued based on the existing tank 20-1 not being subject to 40 CFR 60, Subpart Kb, because the tank was constructed prior to July 23, 1984 and installation of an internal floating roof is not considered a modification for purposes of Subpart Kb.

2a. This permit authorizes construction of the vapor control unit (VCU-3), which shall be used to reduce the emission of volatile organic material (VOM) from the following storage and loading operations: Storage tank Nos. 10-12, 5001-H, 5004-H, C5-H, C-8H, CL-1, D-8; Truck loading for tank Nos. 5-15, 10-12, 10-20, 10-25, 25-7, 5001-H, 5004-H, C5-H, C-8H, CL-1, D-8; Barge loading for tank No. 25-3 and any fuel-grade ethanol barge loading and gasoline barge loading; and loading of aviation gasoline at truck loading rack No. 6.

b. For the vapor control unit (VCU-3), the Permittee shall comply with the following operational requirements, except as provided in Condition 6d:

i. The flare shall be operated with a flame present at all times;

ii. The presence of a flare pilot flame shall be monitored using a daily visual inspection and use of a UV scanner or other comparable device to monitor the flare pilot;

iii. The flare shall be equipped with a strip chart recorder or other appropriate device which records the temperature of the combustor flame temperature on a daily basis; and

iv. If the pilot flame goes out, the flow of vapors to the flare shall be discontinued until the pilot flame is restored.

c. The Permittee shall operate the VCU-3 so as to achieve a minimum of 97 percent overall destruction of volatile organic material.

3a. This permit authorizes construction of the amine scrubber unit (Scrubber No. 3), which shall be used to reduce the storage and loading (VOM) emissions associated with storage tank No. W-1.

b. The Permittee shall operate the amine scrubber unit (Scrubber No. 3) so as to achieve a minimum of 70 percent overall removal of volatile organic material from the W-1 storage tank emissions and truck loading rack No. 24 servicing storage tank No. W-1 emissions.

c. For the amine scrubber unit (Scrubber No. 3), the Permittee shall comply with the following operational requirements:

i. Measure and record inlet gas pressure (inches of water);

ii. Measure and record scrubbant flow via pressure sensor (psig);

iii. Record type of scrubbant used; and

iv. If the scrubber is not in operation, the flow of vapors to the scrubber shall be discontinued until the scrubber operation is restored.

4a. The gasoline loading rack shall be equipped with quick-disconnect and dry-disconnect fittings. As a result, drip pan losses are considered negligible.

b. The gasoline loading rack emissions shall be controlled by the existing flare.

c. At all times, the Permittee shall, to the extent practicable, maintain and operate the gasoline loading rack, including associated air pollution capture and control equipment, in accordance with written operating procedures that provide for good air pollution control practice for minimizing emissions. At a minimum, these practices shall include:

The following provisions are for operation of the flare, except as provided in Condition 6d:

i. The flare shall be operated with a flame present at all times.

ii. The presence of a flare pilot flame shall be monitored using a thermocouple or other comparable device to detect the presence of a flame.

iii. If the pilot flame goes out, the flow of vapors to the flare shall be discontinued until the pilot flame is restored.

5a. Gasoline High Octane shall only be stored by storage tank 48-1 or similar tanks equipped with an internal floating roof.

b. Gasoline Low Octane shall only be stored by storage tank 55-9 or similar tanks equipped with an internal floating roof.

c. Fuel Ethanol shall only be stored by storage tank 55-3 or similar tanks equipped with an internal floating roof.

d. Jet Fuel shall only be stored by storage tank 55-8 or similar tanks (similar tanks may be equipped with emission control devices such as an internal floating roof).

e. The Permittee shall notify the Illinois EPA prior to storing materials in tanks other than those specifically identified above.

6a. Throughput of materials, by category of service, shall not exceed the following limits:

Service	Throughput (Gallons/Mo)	(Gallons/Yr)
Aviation Gasoline	625,000	5,000,000
Gasoline High Octane	6,250,000	50,000,000
Gasoline Low Octane	35,000,000	280,000,000
Fuel Ethanol*	17,625,000	141,000,000
Jet Fuel	14,317,000	114,536,000

* Out of terminal throughput

b. Emissions from storage of material, by category of service, shall not exceed the following limits:

Service	VOM Emissions (Tons/Month)	(Tons/Year)
Aviation Gasoline	0.26	2.08
Gasoline High Octane	0.40	2.80
Gasoline Low Octane	1.43	11.60
Fuel Ethanol	1.58	12.60
Jet Fuel	0.49	3.90
Additives	0.01	0.03
Transmix	0.02	0.16
Kerosene	0.03	0.19
High Sulfur No. 2 Oil	0.19	1.44
General (uncont. Tanks)	0.18	1.42
General (w/VCU-3)	0.02	0.13
Amine (w/Scrubber No. 3)	0.01	0.03
	Total:	36.38

c. Emissions from the loading racks used for the above categories of service shall not exceed the following limits:

Product	VOM Emissions (Tons/Mo)	(Tons/Yr)
Gasoline Rack		
Gasoline	1.33	10.42
Fuel Grade Ethanol	0.18	1.41
No. 2 Fuel Oil, Kerosene, Jet Fuel	0.01	0.06
Transmix Loading	0.01	0.01
Rack Nos. 7 & 8 - High Sulfur No. 2 Oil	0.12	0.89
Loading Racks 6, 27		
Misc. Materials	0.72	5.58
Aviation Gasoline	0.05	0.40
Barge Dock 1 - Misc. Materials	0.08	0.63
Loading Racks 28, 31, 34, 44 w/VCU-3 - Miscellaneous Materials	0.05	0.39
Loading Rack 24 w/Scrubber No. 3 - Miscellaneous Materials	0.01	0.01
	Total:	19.80

d. The Permittee is authorized to operate tanks and racks to store and handle materials other than gasoline without the associated control device for up to 72 hours per year provided such control is not required pursuant to 35 IAC Part 218 and 40 CFR Part 60 and Part 63. The resulting emissions of VOM from emission units otherwise controlled by the VCU and emissions of VOM from emission units otherwise controlled by the VCU-3 shall not exceed 0.75 tons/year from each control device.

e. Volatile organic material emitted during periods of time when the floating roof(s) rest on their legs resulting in landing losses shall not exceed 4.0 tons/year for all internal floating roof tanks located at the source.

7. This permit is issued based on negligible emissions of volatile organic material from fugitive emissions associated with the fuel distribution project. For this purpose, fugitive emissions from pumps, sampling connections, piping flanges, and valves shall not exceed 0.214 tons/year.

8a. This permit authorizes installation of a portable vapor combustion unit (e.g., flare) for cleaning storage tanks.

b. This permit is issued based on negligible emissions of nitrogen oxides, carbon monoxide, sulfur dioxide, particulate matter, and volatile organic material from the portable vapor combustor unit. For this purpose, emissions of each pollutant shall not exceed a nominal emission rate of 0.44 tons/year.

c. At all times, the Permittee shall to the extent practicable, maintain and operate the portable vapor combustion unit in a manner consistent with good air pollution control practice for minimizing emissions.

9a. The source has addressed the applicability and compliance of 35 IAC Part 203, Major Stationary Sources Construction and Modification (See Attachment 1). The limits established by this permit are intended to ensure that the modification addressed in this construction permit does not constitute a major modification pursuant to these rules.

b. In particular, the limitations in Condition 6 replace limitations for the source that were established in the previous construction permit. These new limitations only become effective after the VCU-3 enters routine service.

10. Testing Requirements

a. Within 90 days of initial startup of the VCU-3, the VOM destruction efficiency of the VCU-3 shall be measured during conditions which are representative of maximum emissions.

b. The following methods and procedures shall be used for testing of emissions, unless another method is approved by the Illinois EPA: Refer to 40 CFR 60, Appendix A, for USEPA test methods.

Location of Sample Points	USEPA Method 1
Gas Flow and Velocity	USEPA Method 2
Flue Gas Weight	USEPA Method 3
Moisture	USEPA Method 4
Volatile Organic Material	USEPA Method 25, 25A if outlet VOM cont. < 50 ppmv as C Non CH_4

c. The Illinois EPA shall be notified prior to this test to enable the Illinois EPA to observe these tests. Notification of the expected date of testing shall be submitted a minimum of thirty days prior to the expected date. Notification of the actual date and expected time of testing shall be submitted a minimum of five (5) working days prior to the actual date of the test. The Illinois EPA may at its discretion accept notifications with shorter advance notice provided that the Illinois EPA will not accept such notifications if it interferes with the Illinois EPA's ability to observe testing.

d. At least 30 days prior to the actual date of testing, a written test plan shall be submitted to the Compliance Section of the Division of Air Pollution Control for review. This plan shall describe the specific procedures for testing, including as a minimum:

i. The person(s) who will be performing sampling and analysis and their experience with similar tests.

ii. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of maximum emissions and the means by which the operating parameters for the emission unit and any control equipment will be determined.

iii. The specific determinations of emissions and operation which are intended to be made, including sampling and monitoring locations.

iv. The test method(s) which will be used, with the specific analysis method, if the method can be used with different analysis methods.

v. Any minor changes in standard methodology proposed to accommodate the specific circumstances of testing, with justification.

vi. Any proposed use of an alternative test method, with detailed justification.

vii. The format and content of the Source Test Report.

e. Copies of the Final Report(s) for these tests shall be submitted to the Illinois EPA within 14 days after the test results are compiled and finalized. The Final Report shall include as a minimum:

i. A summary of results

ii. General information

iii. Description of test method(s), including description of sampling points, sampling train, analysis equipment, and test schedule

iv. Detailed description of test conditions, including

A. Process information, i.e., mode(s) of operation, process rate, e.g. fuel or raw material consumption

B. Control equipment information, i.e., equipment condition and operating parameters during testing, and

C. A discussion of any preparatory actions taken, i.e., inspections, maintenance and repair

v. Data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration

vi. An explanation of any discrepancies among individual tests or anomalous data

f. Two copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

and one copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
9511 West Harrison
Des Plaines, Illinois 60016

11. The Permittee shall maintain records of the following items:

a. Throughput for each type of product through each storage tank (gallons/month and gallons/year);

b. Throughput for each type of product through each loading rack (gallons/month and gallons/year);

c. Periods of time when the pilot flame goes out on the flares (VCU and VCU-3) and the flow of vapors to the flares have not discontinued, with an estimate of the VOM emissions from the flare stacks during each period, with supporting data and calculations;

d. Periods of time when the floating roof(s) rest on their legs resulting in landing losses, with an estimate of the VOM emissions from the landing losses during each period, with supporting calculations.

e. Operational Records for the VCU-3:

i. Log of visual inspections of the pilot flame;

ii. Temperature of the combustor flame;

f. Operational Records for the Scrubber No. 3:

i. Inlet gas pressure (inches of water);

ii. Scrubbant flow via pressure sensor (psig); and

iii. Type of scrubbant used.

g. VOM emissions from each tank and each loading rack (tons/month and tons/year).

12. General requirements of the CAAPP permit with respect to retention and availability of records and submission of reports shall apply to the recordkeeping and reporting requirements of this permit.

13. This permit does not relax or revise requirements for the existing tanks and loading racks as established in 40 CFR 63, Subpart R; 40 CFR 60, Subpart XX; and 35 IAC 218 and set forth in the Clean Air Act Permit Program (CAAPP) permit for the source, CAAPP Permit 95120128.

14. This permit is issued based upon construction of two fixed bed adsorbers (one on each acrylate scrubber) without any increase in emissions to the atmosphere. These two fixed bed adsorbers will be removed from service following successful start-up of enclosed flare VCU-3.

15. Operation of the equipment covered by this permit is allowed under this construction permit until the next renewal of the source's Clean Air Act Permit Program (CAAPP) permit.

16a. This permit is issued based upon negligible emissions of volatile organic material from the storage and loading emissions associated with tank No. 5-12 controlled by a vapor adsorption filter for breathing losses and a vapor balance system for working losses (performed at loading rack 28). For this purpose, emissions shall not exceed a nominal emission rate of 0.033 tons per year.

Note: This emission rate is not included in the emission totals found in Condition 6b and 6c.

b. For the vapor adsorption filter, the Permittee shall replace or recharge the vapor adsorption filter when visible indication of vapor breakthrough is observed at the vapor outlet. Record of replacement or recharge of the filter media shall be maintained by the Permittee.

It should be noted that this permit has been revised to allow the storage and loading of aviation gasoline and to add control measures to reduce breathing and working losses associated with tank 5-12.

If you have any questions on this, please call Jason Schnepp at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:JMS:psj

cc: Region 1

Attachment 1

Nonattainment NSR Applicability - VOM Netting Analysis

Contemporaneous Time Period of 1998 Through 2002

Table I – Emissions Increases and Decreases Associated With The Proposed Modification

Item of Equipment	Past Actual (Tons/Yr)	Future Potential (Tons/Yr)	Emissions Increase (Tons/Year)
Tank No. 5-12 Storage and Loading	0.000	0.033	0.033
Aviation Gasoline Tank	0.000	2.080	2.080
Loading of Aviation Gasoline at Rack 6	0.000	0.400	0.400
Tank C-10 additional storage	0.000	0.010	0.010
Tank C-10 additional loading	0.000	0.010	0.010
Additional fugitives	0.000	0.002	0.002
High Octane Gasoline Throughput Increase	0.000	0.280	0.280
Low Octane Gasoline Throughput Increase	0.000	0.350	0.350
High Sulfur Fuel Oil Throughput Increase	0.000	0.520	0.520
		Total:	3.685

Table II – Source-Wide Creditable Contemporaneous Emission Increases

Item of Equipment	Emissions Increase (Tons/Year)	Permit Number	Date
Fuels Distribution Project-2001 Tanks	9.040	01030082	11/7/01
Fuels Distribution Project-2001 Racks	10.530	01030082	11/7/01
Fuels Distribution Project-2001 Fugitive	0.212	01030082	11/7/01
Fuel-Grade Ethanol Tanks	1.666	01030082	6/27/02
Jet Fuel Tank	1.107	01030082	6/27/02
Fuel Additive Tanks	0.001	01030082	6/27/02
Kerosene Tank	0.126	01030082	6/27/02
High Sulfur No. 2 Oil	0.760	01030082	6/27/02
General Service Tanks w/o control	0.273	01030082	6/27/02
Landing Losses for all IFR tanks	4.000	01030082	6/27/02
Total:	27.715		

Table III – Source-Wide Creditable Contemporaneous Emission Decreases

Item of Equipment	Emissions Decrease (Tons/Year)	Permit Number	Commencement of Operational Change Date
General Service Tanks w/VCU-3	- 1.950	01030082	6/27/02
Amine Tank w/Scrubber No. 3	- 0.194	01030082	6/27/02
Racks (Tank Truck Loading, Barge Loading)	- 5.141	01030082	6/27/02
Total:	- 7.285		

Table IV – Net Emissions Change

	(Tons/Year)
Increases and Decreases Associated With The Proposed Modification	3.685
Creditable Contemporaneous Emission Increases	27.715
Creditable Contemporaneous Emission Decreases	- 7.285
	24.115

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